

Listing of Claims:

The following claims listing supercedes any other listing of the claims of the invention.

1. (Currently Amended) An ultrasonic probe for an endoscope comprising an ultrasonic transducer, the ultrasonic transducer further comprising, by sequential lamination:

- an acoustic lens;
- an acoustic matching layer;
- a piezoelectric element; and
- a backing member,

wherein the backing member attenuates is arranged on a surface that is opposed to a surface of the acoustic matching layer in order to attenuate ultrasonic waves and the acoustic lens arranged at the piezoelectric element contains a synthetic rubber having a mixture including acrylonitrile-butadiene rubber (NBR), ethylene-propylene terpolymer (EPDM), and at least inorganic fine powders.

2. (Currently Amended) An ultrasonic probe for an endoscope according to Claim 1, wherein the backing member has a hardness property of between 80 and [[to]] 100 degrees in the A scale in conformity with JISK6253 and an ultrasonic absorbing coefficient of 10 [dB/mm] or more at a frequency of 5 MHz.

3. (Currently Amended) An ultrasonic probe for an endoscope according to Claim 1, further comprising:

an exterior cap which immerses the ultrasonic transducer in an acoustic medium, and wherein the backing member immersed in the acoustic medium displays a percentage of absorption that is 2.5% or less and displays an acoustic impedance that is within a range of 1×10^6 to 8×10^6 [$\text{kg}/(\text{m}^2 \cdot \text{s})$].

4. (Currently Amended) An ultrasonic probe for an endoscope according to Claim 1, further comprising:

a flexible shaft which rotates the ultrasonic transducer using a driving motor.

5. (Currently Amended) An ultrasonic probe for an endoscope according to Claim 1, further comprising:

a coating film which covers the ultrasonic transducer to protect it from the acoustic medium.

6. (Currently Amended) An ultrasonic probe for an endoscope according to Claim 1, wherein the acoustic medium is aqueous solution that imposes a low attenuation on ultrasonic waves arriving at the surface of the ultrasonic transducer, and wherein the aqueous solution is obtained by adding an additive to the water, or oil that displays a low attenuation to ultrasonic waves.

7. (Currently Amended) An ultrasonic probe for an endoscope according to Claim 1, wherein the ultrasonic transducer further comprises at least:

a piezoelectric element which receives and transmits ultrasonic waves; and

a backing member which is arranged at a rear surface side of the piezoelectric element,

wherein the backing member is a mixture including acrylonitrile-butadiene rubber (NBR), ethylene-propylene terpolymer (EPDM), and at least inorganic fine powders, and wherein

the backing member is a synthetic rubber having a hardness property of between approximately 80 to 100 degrees in the A scale in conformity with JISK6253 and having an ultrasonic absorbing coefficient of approximately 10 [dB/mm] or more at a frequency of 5 MHz.

8. (Currently Amended) An ultrasonic probe for an endoscope according to Claim 1, wherein the ultrasonic transducer further comprises at least:

a piezoelectric element which receives and transmits ultrasonic waves; and
a backing member which is arranged at a rear surface side of the piezoelectric element,
wherein the backing member is formed as a mixture including acrylonitrile-butadiene
rubber (NBR), ethylene-propylene terpolymer (EPDM), and at least inorganic fine powders,
wherein

the backing member is a synthetic rubber having a hardness property of approximately 80
to 100 degrees in the A scale in conformity with JISK6253 and an ultrasonic absorbing
coefficient of approximately 10 [dB/mm] or more at a frequency of 5 MHz, and

wherein the backing member further displays a percentage of absorption property of
approximately 2.5% or less, and an acoustic impedance in an approximate range of 1×10^6 to $8 \times$
 10^6 [kg/(m²·s)].